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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

BRAHAN, THOMAS J

ART UNIT

PAPER NUMBER

3654

DATE MAILED: 10/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/735,733

Applicant(s)

MOTOORI ET AL.

Examiner

Thomas J. Brahan

Art Unit

3652

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/16/2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

46

Art Unit: 3652

1. The following is a quotation of the second paragraph of 35 U.S.C. § 112:
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
2. Claims 1-13 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document. For example:
 - a. Claim 1 is written as a run-on sentence which is not organized into concise phrases as to clearly claim the subject matter of the invention. For example, the phrase “the stocker being provided with an elevating space for a platform on which a transfer device is provided to transfer an article” is only providing a positive inclusion of the space. The platform and the transfer device are not included as elements of the claimed invention.
 - b. The last three lines of claim 1 recite that “the elevating space and the storage space being arranged in a direction orthogonal to a direction in which the overhead traveling carriage runs, as viewed from above”. This is unclear and indefinite. It is unclear as to how applicant is considering these two spaces and orthogonal to the line of the overhead track. As these spaces have two dimension, when viewed from above, how are the two spaces considered as capable of defining any line, especially one that is orthogonal to another line? Note also that the space for the elevating space is directly below that carriage, not off to one side, as seen in figure 1.
 - c. It is unclear as to how claims 2, 3, and 7 can be drawn to features of the processing devices, when the processing devices are not part of the claimed combination of elements. Note that lines 2 and 3 of claim 1 only recites the function of the carriage as conveying articles between processing devices. There is no positive inclusion of the processing devices.
 - d. It is unclear as to how claim 2 can recite that stocker is close to a processing device which requires relatively short processing time. As the terms “close to” and “relatively short processing time” are relative terms, every processing unit in the system reads on all of the structure found in the claim.
 - e. It is unclear as to how the applicant considers claim 3 as specifying any structural details, as the carriage system shown in figure 6 has 14 processing units on just the one processing route of the six routes, as to have an multiple number of gaps between various pairs of processing units. Claim 7 also attempts to recite the system by correlating it to a gap between the processing units.
 - f. In claims 5, 12 and 13, the term “the platform” lacks antecedent basis within the claims.
 - g. The structure attempted to be recited in claim 6 is not understood. It appears to repeat the limitations at the last three lines of claim 1.
 - h. In claim 7, the term “the gap” lacks antecedent basis within the claims.

Art Unit: 3652

- i. In claims 8, 9 and 11, the term "said platform" lacks antecedent basis within the claims.
 - j. If applicant is considering claim 1 as providing a positive basis for the transfer device, then claim 8 redundantly includes the transfer device.
 - k. The structure recited in claim 13 is not understood. It is unclear as to how the applicant considers the transfer device as having a second transmission having one fixed to the platform and the other end fixed to the engaging member, as recited in lines 6 and 7. Timing belt (66) appears to be this second transmission member as it has one end fixed to the engaging member (82), but it does not have an end fixed to the platform. It is also unclear as to how the applicant considers the transfer device as having a third transmission member having one end fixed to the platform, and the other end fixed to said engaging member, as recited in the last four lines of the claim. Claim 13 has not been treated below with rejections based upon prior art.
3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.
4. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. § 103, the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 C.F.R. § 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of potential 35 U.S.C. § 102(f) or (g) prior art under 35 U.S.C. § 103.
5. Claims 1, 4-6 and 8, as best understood, are rejected under 35 U.S.C. § 102(b) as being anticipated by Kwon et al. Kwon et al shows an overhead traveling carriage system in which an overhead traveling carriage (100C) is run along a running rail (T) to convey an article between processing devices, the

Art Unit: 3652

overhead traveling carriage system being characterized in that a stocker (100A) is disposed so as to freely deliver and receive an article to and from the overhead traveling carriage, the stocker being provided with an elevating space for a platform (at 180; see figure 23A) on which a transfer device (170) is provided to transfer and a storage space (Z) in which a plurality of shelves are provided in a vertical direction to store articles, the elevating space and the storage space being arranged in a direction orthogonal to a direction in which the overhead traveling carriage runs, as viewed from above, as the limitation is best understood.

The elevating space extends directly under the running rail of the carriage, as recited in claim 4. An opening connecting the elevating space to the transfer area of the carriage (100C) is at the upper end or top of the elevating space, as recited in claim 5. As seen in figure 1, a longitudinal direction of the stocker is orthogonal to the running direction of the carriage, as claim 6 is best understood. The transfer device (170) is provided with an engaging member (86) that engages a bottom surface of the cassette (not the bottom-most surface, but one of the bottom facing surfaces), as recited in claim 8.

6. Claims 1, 4 and 6, as best understood, are rejected under 35 U.S.C. § 102(b) as being anticipated by Iizuka. Iizuka shows an overhead traveling carriage system in which an overhead traveling carriage (upper body 61) is run along a running rail (ceiling rail 8) to convey an article between processing devices, the overhead traveling carriage system being characterized in that a stocker (box-like enclosure 12) is disposed so as to freely deliver and receive an article to and from the overhead traveling carriage, the stocker being provided with an elevating space for a platform (carriage 81) on which a transfer device (load supporting member 96) is provided to transfer and a storage space (20) in which a plurality of shelves (22) are provided in a vertical direction to store articles, the elevating space and the storage space being arranged in a direction orthogonal to a direction in which the overhead traveling carriage runs, as viewed from above, as the limitation is best understood.

The elevating space is directly below carriage (61), as recited in claim 4. The running direction of the carriage (61) is orthogonal to a direction that could be considered a longitudinal direction of the stocker, as recited in claim 6.

7. Claims 1-8, as best understood, are rejected under 35 U.S.C. § 102(e) as being anticipated by Nakahara et al. Figures 17 and 18 of Nakahara et al shows an overhead traveling carriage system in which an overhead traveling carriage (44) is run along a running rail (Hr) to convey an article (40) between processing devices, the overhead traveling carriage system being characterized in that a stocker (22) is disposed so as to freely deliver and receive an article to and from the overhead traveling carriage, the stocker being provided with an elevating space for a platform (48) on which a transfer device (32) is provided to transfer and a storage space (38) in which a plurality of shelves are provided in a vertical direction to store articles, the elevating space and the storage space being arranged in a direction orthogonal to a direction in which the overhead traveling carriage runs, because the running rail Hr is a

Art Unit: 3652

loop, see figure 25 as to be orthogonal to all horizontal directions, as viewed from above. The stocker is disposed close to processing times with relatively short processing devices, as broadly recited in claim 2. It is in a gap between processing devices, as recited in claims 3 and 7. The elevating space is directly below the running rail, as the delivery port (42) can be considered as part of the elevating space as the elevator has access to the area of the port, as recited in claim 4. The elevating space has an opening at the top (at 42), as recited in claim 5. The transfer device (32) engages the bottom of the article, as recited in claim 8.

8. Claims 2, 3 and 7, as best understood, are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kwon et al or over Iizuka. Kwon et al and Iizuka each show the basic claimed structure for storing wafer cassettes, as to be storing articles between processing devices. They vary from the claims by not stating that they are used among processing devices or in a gap between processing devices. However determining the location for the wafer cassette storage systems of Kwon et al or of Iizuka would have been considered a design expedient, as to have them located “among” the processing devices, or in a “gap” between processing devices, as being obvious to one of ordinary skill in the art at the time the invention was made by applicant.

9. Claims 5, 6, 8 and 9, as best understood, are rejected under 35 U.S.C. § 103(a) as being unpatentable over Iizuka in view of Tokunaga. Iizuka shows the basic claimed storage for wafer cassettes, as detailed above. It varies from claim 5 as it has a conveyor (131) feeding the cassettes into the system instead of an overhead traveling carriage. Note that claim 1 does not recite a function for the traveling carriage as to have it read on the carriage (61) of Iizuka. Tokunaga shows a similar wafer processing device and teaches that OHT's (overhead transfer systems), AGV's and conveyors are art recognized equivalents, see column 9, lines 31-36. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made by applicant to modify the wafer storage system of Iizuka by substituting an overhead transfer system for the conveyor (131) that feeds the cassettes into the system, as these are art recognized equivalents, as taught by Tokunaga. As the running direction of the conveyor (131) is orthogonal to a direction that could be considered a longitudinal direction of the stocker, see figure 3, the running direction of the substituted OHT would be orthogonal to this longitudinal direction of the stocker, as recited in claim 6. The transfer device (96) of Iizuka engages the bottom of the cassette, as recited in claim 8. Guides (102) are provided on opposite sides of the platform (81) of Iizuka, as broadly recited in claim 9.

10. Claim 9, as best understood, is rejected under 35 U.S.C. § 103(a) as being unpatentable over Kwon et al in view of Bernard et al. Kwon et al shows the basic claimed storage system for wafer cassettes, as detailed above. It varies from the claims by not having rollers to guide the loading of the cassettes from


Art Unit: 3652

the transfer device to the stocker shelves. Bernard et al shows a similar storage arrangement with idler rollers (132) on the support surface of the transfer device. It would have been obvious to one of ordinary skill in the art at the time the invention was made by applicant to modify the wafer storage arrangement of Kwon et al by providing the platform of the transfer device with idler rollers, to support and guide the cassette when carried by the platform, as taught by Bernard et al.

11. Claims 10-12, as best understood, is rejected under 35 U.S.C. § 103(a) as being unpatentable over Kwon et al in view of Bernard et al, as applied above to claim 9, and further in view of Whalen. Kwon et al, as modified, shows the basic claimed storage system for wafer cassettes, but varies from the claims by not having rollers on the shelves. Whalen shows a similar cassette storage arrangement with rollers (36) on the shelves. It would have been obvious to one of ordinary skill in the art at the time the invention was made by applicant to modify the wafer storage arrangement of Kwon et al by providing the shelves of the storage space with rollers, to smoothly move the cassettes across the shelves, as taught by Whalen. The transfer device of Kwon is at the central portion of its platform, as to be between the idler rollers added in the rejection of the previous paragraph, as recited in claim 11. The transfer device has a intermediate portions (82 or 84) that can be considered as the moving guide of claim 12.

12. King, Ono et al, Katou et al and Fosnight are cited as showing related storage systems.

13. An inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas J. Brahan whose telephone number is (571) 272-6921. The examiner's supervisor, Ms. Eileen Lillis, can be reached at (571) 272-6928. The new fax number for all patent applications is (571) 273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Questions regarding access to the Private PAIR system, should be directed to the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Thomas J. Brahan
Primary Examiner
Art Unit 3652